

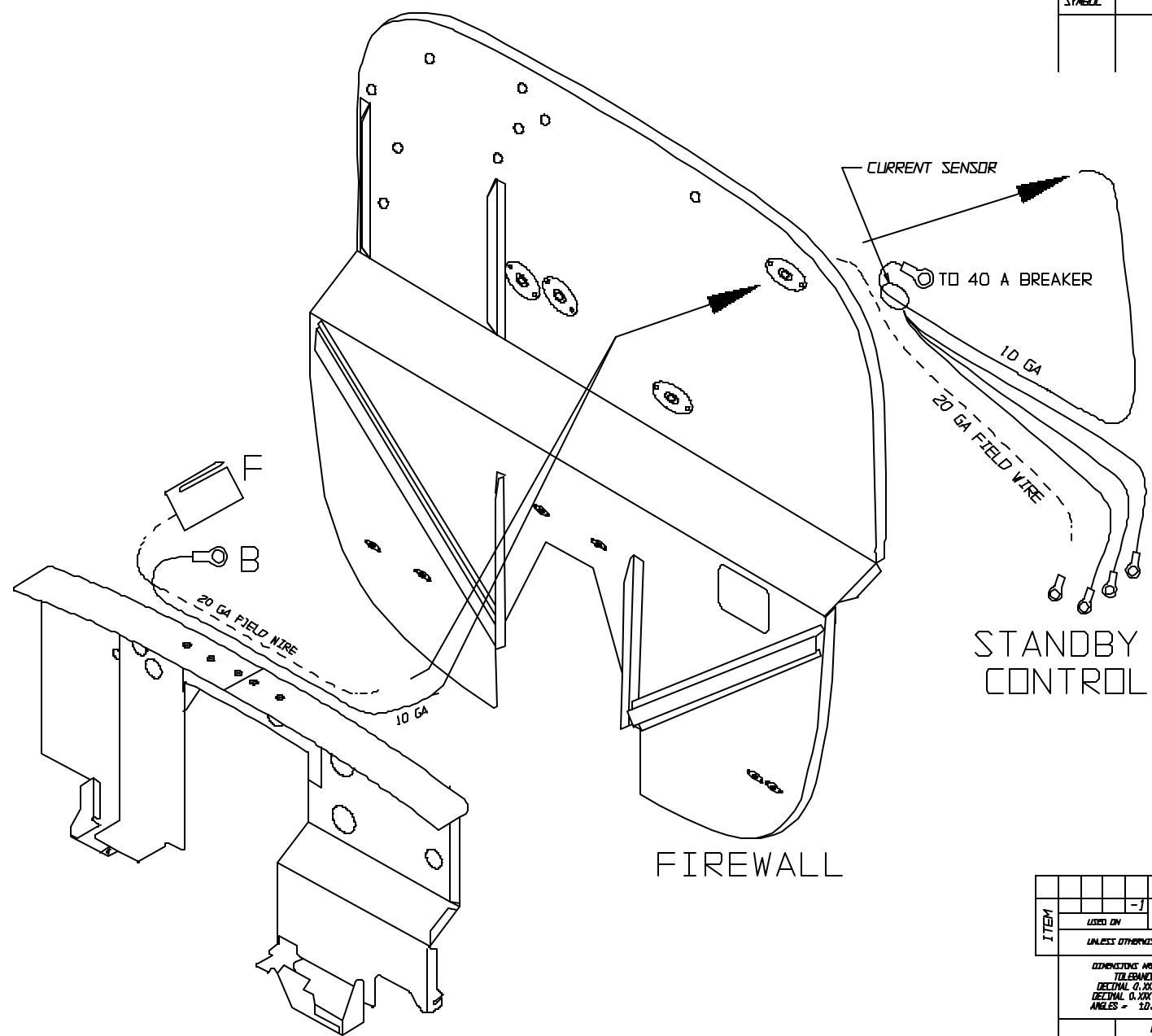
INSTALLATION INSTRUCTIONS

- 1. REMOVE TOP ENGINE COWLINGS LEFT AND RIGHT.
- 2. DISCONNECT THE AIRCRAFT BATTERY.
- 3. REMOVE ENGINE AIR FILTER AND FILTER BOX TO THROTTLE BODY INDUCTION DUCTS
- 4. REFERENCE PAGE 2 OF 7 FOR ALTERNATOR INSTALLATION INSTRUCTIONS.
- 5. REFERENCE PAGE 5 OF 7 FOR CONTROLLER INSTALLATION INSTRUCTIONS.
- 6. REFERENCE PAGE 4 OF 7 FOR ANNUNCIATOR, FIELD SWITCH AND BREAKER INSTALLATION INSTRUCTIONS.
- 7. REFERENCE PAGE 3 OF 7 FOR PLACEMENT OF WIRING HARNESS FORWARD OF AND PASSING THROUGH THE FIREWALL.
- 8. REFERENCE PAGE 6 OF 7 FOR FINAL WIRING SCHEMATICS.
- 9. DRESS ALL WIRES AWAY FROM CHAFE POINTS AND FLIGHT CONTROLS USING NYLON WIRE TIES. CHECK THE WIRE CLEARANCES FROM FLIGHT CONTROLS AT ALL EXTREMES OF CONTROL MOVEMENT.
- 10. REFERENCE PAGE 7 OF 7. PERFORM FINAL TEST PROCEDURE.
- 11. RE-INSTALL ENGINE AIR CLEANER, INDUCTION AIR DUCTS, COWLING AND INTERIOR PANELS.

| SYMBOL | REVISION | DRAWN | APPROV |
|--------|--|-------|----------|
| A | CHANGED SHEETS 1,4 AND 5 TO COMBINE 5A BREAKER AND FIELD SWITCH TO A 5A TOGGLE BREAKER | TH | 12/17/99 |
| B | CORRECTED ITEM 13 P/N, WAS MS20365-42B | TH | 3/23/00 |
| C | CORRECTED LOCATION OF CURRENT SENSOR TORRIDO ON SHEET 6 | TH | 5/3/00 |

| | | | | | |
|----------|--|----------|--|------------------------------------|-------------|
| 32 | | | | | |
| 31 | | | | | |
| 30 | | | | | |
| 29 | | | | | |
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| 27 | | | | | |
| 26 | | | | | |
| 25 | | | | | |
| 24 | | 1 | 425-206 | FIELD CONNECTOR ASSEMBLY | |
| 23 | | 2 | MS35214-14 | SCREW, PAN HEAD, 5-32 x .38, BLACK | |
| 22 | | 20 | MS3367-1-9 | CABLE TIE, NYLON | |
| 21 | | 2 | MS21919-WDG2 | CLAMP, CUSHIONED | |
| 20 | | 8 | SB14R6 | RING TERMINAL, #8 | |
| 19 | | 25 | M22759/16-22-9 | WIRE, 22 AWG | |
| 18 | | 10 | M22759/16-20-9 | WIRE, 20 AWG | |
| 17 | | 1 | MS25171-25 | INSULATOR, SILICON | |
| 16 | | 1 | 410-404 | ANNUNCIATOR PLACARD | |
| 15 | | 1 | 425-401 | SWITCH PLACARD | |
| 14 | | 2 | MS9134-01 | GASKET | |
| 13 | | 4 | MS21042-06 | NUT, HEX, LOCK | |
| 12 | | 4 | AN960-6 | WASHER, FLAT | |
| 11 | | 4 | MS24693-S26 | MACHINE SCREW, FLAT HEAD | |
| 10 | | | | | |
| 9 | | 1 | 425-402 | PLACARD, BREAKER, STBY ALT | |
| 8 | | 1 | 425-403 | PLACARD, BREAKER, SENSE | |
| 7 | | 1 | 425-205 | ANNUNCIATOR | |
| 6 | | 1 | SB71-1 | BREAKER, 1 AMP | |
| 5 | | 1 | MS24509-A-5 | BREAKER, 5 AMP, TOGGLE TYPE | |
| 4 | | 1 | SB78-40 | BREAKER, 40 AMP | |
| 3 | | 1 | BC218-2 | CURRENT SENSOR | |
| 2 | | 1 | BC203-2A | REGULATOR | |
| 1 | | 1 | BC425-1 | ALTERNATOR | |
| 1 | | -1 | | | |
| ITEM | USED ON | PART NO. | DESCRIPTION | | |
| | UNLESS OTHERWISE SPECIFIED | | B & C Specialty Products P.O. Box B, Newton, Kansas 67114 | | |
| | DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMAL DIMS = ± 0.02 DECIMAL DIMS = ± 0.025 ANGLES = ± 0.5 DEGREES | | TITLE INSTALLATION, BC425 ON 210L/M/N, T20L/M/N, AND P210N | | |
| ENGINEER | NAME | DATE | | | |
| DRAWN | TH | 12/27/99 | DRAWING NO. | REVISION B | |
| CHECKED | JJ | 11/1/00 | 425-502-1 | DATE 3/23/00 | |
| PROJECT | | | SCALE FULL | JOB NO. | PAGE 1 OF 7 |

| SYMBOL | REVISION | DRAWN | APPROV |
|--------|----------|-------|--------|
| | | | |



1. ROUTE THE #10 OUTPUT (ITEM 3) AND FIELD (ITEM 24) HARNESS AS SHOWN. USE TWO ADEL CLAMPS, ITEM 21, TO ATTACH THIS HARNESS TO THE BACK SIDE OF THE AFT ENGINE BAFFLE.
2. PASS THIS HARNESS THROUGH THE FIREWALL AT THE GROMMET SHOWN.
3. ROUTE THE #10 OUTPUT CABLE TO THE NEW BREAKER LOCATION ON THE BUSS. ROUTE THE FIELD HARNESS AND THE THREE COLOR CODED CURRENT SENSOR WIRES TO THE STANDBY ALTERNATOR CONTROLLER.

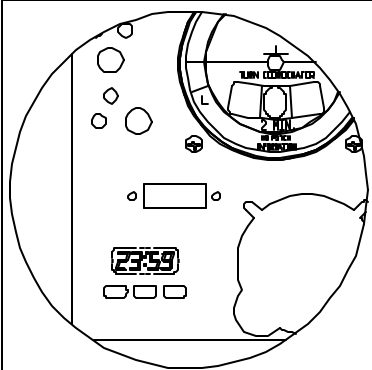
STANDBY ALT
CONTROLLER

ENGINE AFT BAFFLE

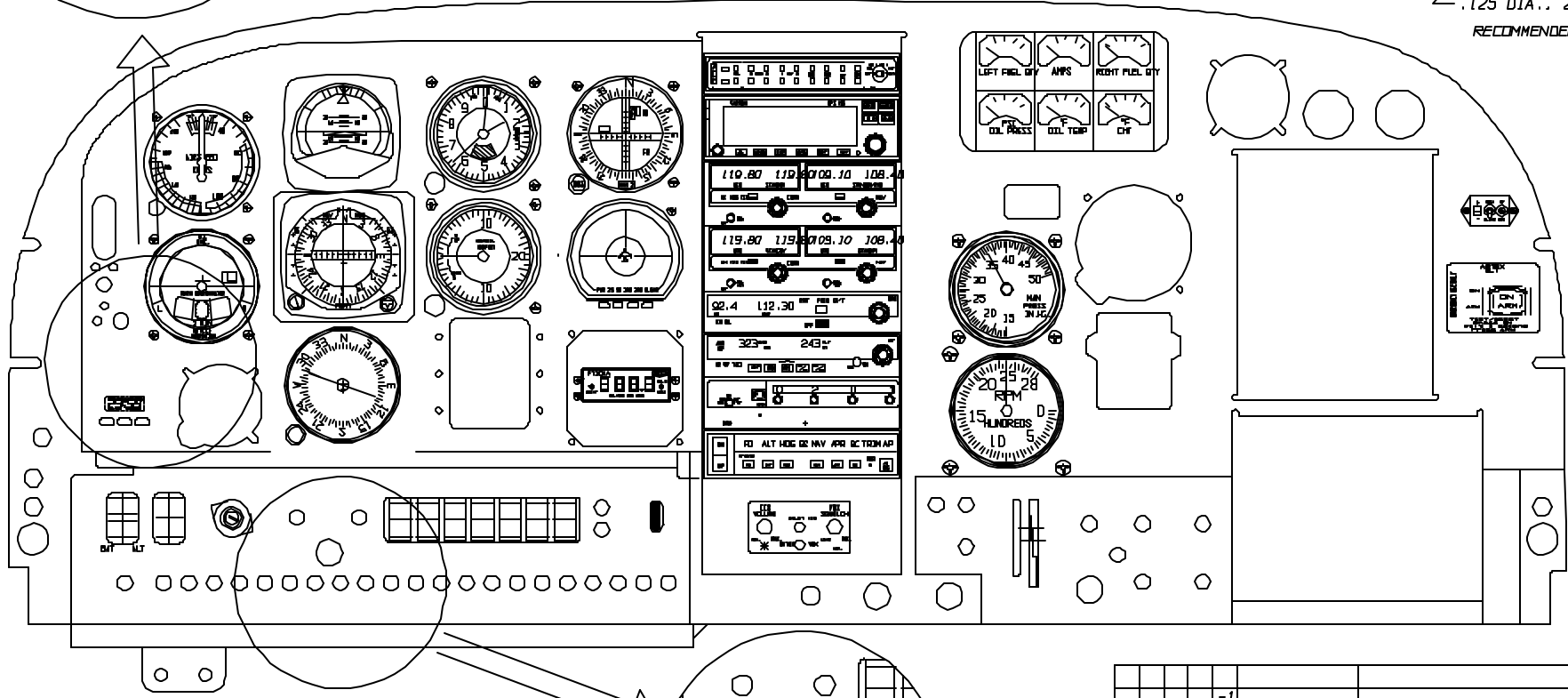
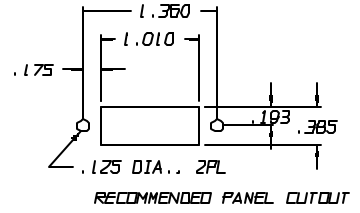
FIREWALL

| | | | | | | | | | |
|----------------------------|------|----------|--|----|-----------|----------------------------------|---------|-------------|--|
| ITEM | | | | | | | | | |
| | | | | -1 | PART NO. | DESCRIPTION | | | |
| UNLESS OTHERWISE SPECIFIED | | | | | | B & C Specialty Products | | | |
| DIMENSIONS ARE IN INCHES | | | | | | P.O. Box B, Newton, Kansas 67114 | | | |
| TOLERANCES ARE: | | | | | | TITLE | | | |
| DECIMAL 0.001 = ± 0.003 | | | | | | INSTALLATION, BC425 ON | | | |
| DECIMAL 0.005 = ± 0.005 | | | | | | 210L/M/N, T210L/M/N, & P210N | | | |
| ANGLES = 30.5 DEGREES | | | | | | DRAWING NO. | | REVISION | |
| ENGINEER | NAME | DATE | | | 425-502-1 | | | | |
| DRAWN | TH | 02/27/99 | | | | | DATE | | |
| CHECKED | JJ | 11/1/99 | | | | | | | |
| PROJECT | | | | | SCALE | FULL | JOB NO. | PAGE 3 OF 7 | |

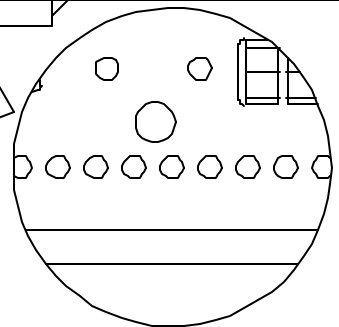
| SYMBOL | REVISION | DRAWN | APPROV |
|--------|----------|-------|--------|
| | | | |



1. INSTALL ANNUNCIATOR, ITEM 7 IN PANEL ON PILOT'S SIDE IN CLEAR VIEW. MAKE SURE A TALL PILOTS VIEW OF THE ANNUNCIATOR IS NOT OBSTRUCTED BY THE GLARE SHIELD AND LEAVE ROOM FOR PLACARD, ITEM 16. PLACARD MAY BE CUT IN HALF HORIZONTALLY AND INSTALLED ABOVE AND BELOW ANNUNCIATOR IF DESIRED AS SHOWN ON PAGE 6 OF 7.



2. INSTALL FIELD SWITCH, ITEM 5 AND BREAKERS, ITEMS 4 AND 6 ON PILOT'S SUBPANEL IN CLEAR VIEW. INSTALL PLACARDS ITEMS 8, 9 AND 15 TO IDENTIFY CORRESPONDING BREAKERS. TRIM PLACARDS AS REQUIRED TO FIT IN ALLOTTED SPACE.



| ITEM | USED ON | PART NO. | DESCRIPTION |
|----------|--|----------|--|
| | UNLESS OTHERWISE SPECIFIED | | B & C Specialty Products P.O. Box B, Newton, Kansas 67114 |
| | DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMAL 0.004 ± 0.002 DECIMAL 0.004 ± 0.002 ANGLES ± 30.5 DEGREES | | TITLE INSTALLATION, BC425 ON 210L/M/N, T210L/M/N, & P210N |
| ENGINEER | NWE | DATE | DRAWING NO. 425-502-1 |
| DRAWN | TH | 9/27/99 | REVISION |
| CHECKED | JJ | 11/1/99 | DATE |
| PROJECT | | | SCALE FULL JOB NO. PAGE 4 OF 7 |

PRELIMINARY FUNCTIONAL TEST

- 1. REFER TO AIRCRAFT OWNERS OR MAINTENANCE MANUAL AND RE-CONNECT THE BATTERY. THE MAG SWITCH SHOULD REMAIN OFF.
- 2. CLOSE THE STANDBY ALTERNATOR "FIELD" AND "SENSE" CIRCUIT BREAKERS.
- 3. TURN ON THE BATTERY AND STANDBY ALTERNATOR MASTER SWITCHES. CHECK THAT NEITHER STANDBY ALTERNATOR BREAKER TRIPS. CHECK THAT THE "STBY ALT ON" ANNUNCIATOR ILLUMINATES.
- 4. USING A HIGH IMPEDANCE VOLTMETER (PREFERABLY DIGITAL) CHECK THE VOLTAGE BETWEEN PIN 7 OF THE STANDBY REGULATOR AND BOTH THE AIRFRAME AND THE BATTERY NEGATIVE POST. THE VOLTAGE SHOULD BE NEAR 0 VDC.
- 5. USE PIN 7 OF THE REGULATOR OR AIRFRAME AS NEGATIVE REFERENCE. MEASURE THE VOLTAGE ON PIN 1 OF THE REGULATOR. THE VOLTAGE SHOULD BE EQUAL TO THE BUS VOLTAGE.
- 6. USE PIN 7 OF THE REGULATOR OR AIRFRAME AS NEGATIVE REFERENCE. CHECK THE VOLTAGE ON PIN 6 OF THE REGULATOR. THE VOLTAGE SHOULD BE WITHIN 1.0 VOLT OF THE BUS VOLTAGE.
- 7. USE PIN 7 OF THE REGULATOR OR AIRFRAME AS NEGATIVE REFERENCE. CHECK THE VOLTAGE ON PIN 5 OF THE REGULATOR. THE VOLTAGE SHOULD BE 13 TO 15 VOLTS.
- 8. CHECK THAT OPENING THE "STBY ALT" MASTER SWITCH CAUSES THE VOLTAGE ON PIN 6 TO GO TO ZERO AND THE "STBY ALT ON" ANNUNCIATOR TO GO OFF. CLOSE THE "STBY ALT" MASTER SWITCH.
- 9. CHECK THAT PULLING THE STANDBY ALTERNATOR "SENSE" CIRCUIT BREAKER CAUSES THE VOLTAGE ON PIN 1 TO GO TO ZERO AND THE "STBY ALT ON" ANNUNCIATOR TO GO OFF. CLOSE THE BREAKER.
- 10. MOVE TO THE ENGINE COMPARTMENT. USING A CLEAN ENGINE GROUND FOR NEGATIVE REFERENCE, CHECK THE VOLTAGE ON THE ALTERNATOR FIELD TERMINAL. THE CONNECTOR MUST NOT BE DISCONNECTED FOR THIS MEASUREMENT. USE A THIN PROBE OR SMALL WIRE TO ACCESS THE TERMINAL THRU THE BACK OF THE CONNECTOR. THE VOLTAGE SHOULD MEASURE WITHIN 1.0 VOLT OF THE VALUE ON PIN 5 OF THE REGULATOR.
- 11. USING ENGINE GROUND AS NEGATIVE REFERENCE CHECK THE VOLTAGE ON THE "B" LEAD (OUTPUT TERMINAL) OF THE ALTERNATOR. THE VOLTAGE SHOULD BE EQUAL TO THE BUS VOLTAGE.
- 12. TURN OFF THE BATTERY MASTER.

| SYMBOL | REVISION | DRAWN | APPROV |
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FINAL TEST

- 1. PERFORM A NORMAL PREFLIGHT INSPECTION.
- 2. MOVE THE AIRCRAFT TO AN AREA SAFE FOR ENGINE START.
- 3. PERFORM A NORMAL ENGINE START AND ALLOW THE ENGINE TO REACH PROPER TEMPERATURE FOR RUNUP RPM.
- 4. ASSURE THAT THE "STBY ALT" AND "STBY ALT SENSE" CIRCUIT BREAKERS AND "STBY ALT" MASTER SWITCH ARE IN THE ON POSITION.
- 5. REDUCE SYSTEM ELECTRICAL LOADS TO APPROX 10-15 AMPS.
- 6. SET ENGINE TO 2000 RPM MINIMUM.
- 7. SWITCH PRIMARY ALTERNATOR FIELD SWITCH TO OFF.
- 8. CHECK THAT THE "STBY ALT ON" ANNUNCIATOR LIGHTS.
- 9. INCREASE THE ELECTRICAL LOAD TO OVER 20 AMPS. THE "STBY ALT ON" ANNUNCIATOR SHOULD BE BLINKING. REDUCE THE ELECTRICAL LOAD TO LESS THAN 20 AMPS. THE "STBY ALT ON" ANNUNCIATOR SHOULD BE ON STEADILY.
- 10. SWITCH THE PRIMARY ALTERNATOR FIELD SWITCH TO ON. THE "STBY ALT ON" ANNUNCIATOR SHOULD GO OFF.
- 11. RETURN THE ENGINE TO IDLE RPM.

| ITEM | QUANTITY | DESCRIPTION |
|------|----------|---|
| | 1 | DESCRIPTION |
| | | UNLESS OTHERWISE SPECIFIED |
| | | DIMENSIONS ARE IN INCHES TOLERANCES ARE: DECIMAL 0.005 ± 0.002 FRACTIONAL 0.001 ± 0.0005 ANGLES ± 0.5 DEGREES |
| | | ENGINEER |
| | | DRAWN TH 02/27/00 |
| | | CHECKED JJ 11/1/99 |
| | | PROJECT |
| | | PART NO. |
| | | DESCRIPTION |
| | | B & C Specialty Products P.O. Box B, Newton, Kansas 67114 |
| | | TITLE INSTALLATION, BC425 ON 210L/M/N, T210L/M/N, & P210N |
| | | DRAWING NO. 425-502-1 |
| | | REVISION |
| | | DATE |
| | | SCALE FULL JOB NO. PAGE 7 OF 7 |